IN THE CLAIMS:

1. (Currently Amended) A receiver including a front-end stage that develops a ~~data communications system, comprising:~~

~~———~~a plurality of individually modulated carriers, and a following stage, ~~; and~~ characterized in that:

~~a receiver that includes a~~ said front-end stage ~~that~~ receives an incoming signal, ~~said modulated carriers, and a synchronization processor that~~ develops an offset measure ~~between a clock employed in creating said modulated transmission carriers and a clock of said receiver by, in~~ by developing signals related to said incoming signals and employing a plurality of modulated carriers created from a transformation into frequency domain of said signals related to said incoming signals, which offset measure participates in creating said signals related to said incoming signals ~~processing phases of said plurality of received modulated carriers~~.

2. (Currently Amended) The system of claim **1**, where said offset measure is a timing offset, and said processing operates on a plurality of pairs of said ~~received~~ modulated carriers from said plurality of modulated carriers, taking account of frequency separation between carriers within each of said pairs.

3. (Original) The system of claim **2**, where the individually modulated transmission carriers are Orthogonal Frequency Division Multiplexed carriers.

4. (Previously Presented) The system of claim **2** where said processing on said plurality of pairs develops a set of results, and develops said timing offset from the set of results.

5. (Previously Presented) The system of claim **4**, where carriers of a pair in said pairs are adjacent to each other in the frequency.

6. (Currently Amended) The system of claim ~~2~~ **4**, where carriers of a pair in said pairs are equally spaced in the frequency domain, but not adjacent to each other.

7. (Previously Presented) The system of claim **6** where the processor, in computing the timing offset, computes differences in phase between said received carriers.

8. (Currently Amended) The system of claim ~~7~~ **4**, where carriers of a pair in said pairs are not equally spaced in the frequency domain .

9. (Canceled) .

10. (Canceled) .

11. (Canceled) .

12. (Canceled) .

13. (Canceled) .

14. (Canceled) .

15. (Canceled) .

16. (Canceled) .

17. (Canceled) .

18. (Canceled) .

19. (Currently Amended) The system of claim ~~18~~ **4** where said timing offset between any pair of modulated carriers is developed by raising the complex representation of the modulated carriers to an integer power.

20. (Currently Amended) The system of claim **19** where the carriers are modulated by an N-level phase modulation ~~schema~~ scheme, and the carriers are raised to the N^{th} power.

21. (Previously Presented) The system of claim **20** where the modulation is Quadrature Phase Shift Keying and the carriers are raised to the fourth power.

22. (Canceled) .

23. (Canceled) .

24. (Canceled) .

25. (Canceled) .

26. (Currently Amended) The system of claim ~~22~~ **1** where said offset measure is a frequency offset that is developed by ~~the means to synchronize the operating frequency is based on~~ computing ~~the~~ phases of ~~a~~ said plurality of ~~said received~~ modulated carriers.

27. (Currently Amended) The system of claim ~~26~~ **1** where the plurality of modulated carriers are used in combination to determine ~~the synchronization~~ said offset measure with the contribution of each carrier weighted according to its accuracy.

28. (Original) The system of claim **27** where the accuracy of each carrier's contribution is determined based on the carrier's amplitude.

29. (Previously Presented) The system of claim **28** where, for each carrier, the carrier's amplitude and phase, represented by a complex number in a Cartesian coordinate system, is summed with the other carriers' complex representation to yield a

composite vector , representing the composite amplitude and phase; said processor further employing the phase of this composite vector to create a frequency synchronization signal.

30. (Original) The system of claim **29** where the carriers' modulating data signals are known by the receivers and can be used to determine the precise transmitter carriers' phases.

31. (Original) The system of claim **29** where the carriers' modulating data signals are not known by the receivers but can be estimated by attempting to demodulate the carriers and then used to estimate the transmit carriers' phases.

32. (Original) The system of claim **29** where the carriers' modulating data signals are not known by the receivers but where the effect of the modulation can be removed from the carriers without demodulating the carriers.

33. (Original) The system of claim **32** where the means to remove the carriers' data modulation is by raising the complex representation of the carrier amplitude and phase to an integer power.

34. (Original) The system of claim **33** where the modulation of the carriers is by N level phase modulation and the data modulation is removed by raising the complex representation of the carrier amplitude and phase to the N^{th} power.

35. (Original) The system of claim **34** where the modulation is Quadrature Phase Shift Keying and the data modulation is removed by raising the complex representation of the carrier amplitude and phase to the fourth power.

36. (Canceled) .

37. (Canceled) .

38. (Canceled) .

39. (Withdrawn) .

40. (Withdrawn) .

41. (Withdrawn) .

42. (Withdrawn) .

43. (Withdrawn) .

44. (Currently Amended) A method in a data communications system~~,~~ that includes a plurality of individually modulated carriers, comprising the steps of:

receiving in a receiver said plurality of individually modulated carriers,

developing in said receiver a synchronizing signal from computed phases in the frequency domain of said individually modulated carriers; and

applying said synchronizing signal to a circuit that performs said receiving ~~synchronize the plurality of modulated carriers that are received by said receiver~~.

45. (Currently Amended) The method of claim **44**, where the synchronizing signal imparts timing offset information to said circuit ~~sample timing of said received carriers is being synchronized~~.

46. (Currently Amended) The method of claim **45**, where the individually modulated ~~transmission~~ carriers are Orthogonal Frequency Division Multiplexed carriers.

47. (Original) The method of claim **45**, where the frequency domain representation of the received signal is a form of the Fourier Transform.

48. (Original) The method of claim **47**, where the form of the Fourier Transform is the Fast Fourier Transform.

49. (Currently Amended) The method of claim **45**, where the synchronizing signal is based on ~~structure of the frequency domain representation is the~~ collective phase relationships between a plurality of individual carriers.

50. (Original) The method of claim **49**, where the synchronizing signal ~~of the timing of signals~~ is based on computing the differences in phase between a plurality of individual ones of said individually modulated carriers.

51. (Original) The method of claim **50**, where computing of the differences in phase between individual carriers is by using a differential-in-frequency detection scheme.

52. (Canceled) .

53. (Original) The method of claim **50** where the plurality of carriers used are adjacent in frequency.

54. (Original) The method of claim **50** where the plurality of carriers used is equally spaced but not adjacent.

55. (Original) The method of claim **50** where the plurality of carriers used may not be equally spaced but may be arbitrarily selected by the receivers.

56. (Canceled) .

57. (Canceled) .

58. (Canceled) .

59. (Canceled) .

60. (Currently Amended) The method of claim ~~58~~ **44** where data that modulates the carriers~~' modulating data signals are~~ is not known by the receivers, but can be estimated by attempting to demodulate the carriers and then using the derived modulating data to estimate the transmit carriers' phases.

61. (Currently Amended) The method of claim ~~58~~ **44** where data that modulates the carriers-is not known by the receivers, but where the effect of the modulation can be removed from the carriers without demodulating the carriers.

62. (Original) The method of claim **61** where the means to remove the carriers' data modulation is by raising the complex representation of the carrier amplitude and phase to an integer power.

63. (Original) The method of claim **62** where the modulation of the carriers is by N level phase modulation and the data modulation is removed by raising the complex representation of the carrier amplitude and phase to the N^{th} power.

64. (Original) The method of claim **63** where the modulation is Quadrature Phase Shift Keying and the data modulation is removed by raising the complex representation of the carrier amplitude and phase to the fourth power.

65. (Canceled) .

66. (Canceled) .

67. (Canceled) .

68. (Canceled) .

69. (Canceled) .

70. (Canceled) .

71. (Canceled) .

72. (Canceled) .

73. (Canceled) .

74. (Canceled) .

75. (Canceled) .

76. (Canceled) .

77. (Canceled) .

78. (Canceled) .

79. (Canceled) .

80. (Canceled) .

81. (Canceled) .

82. (Canceled) .